Advantys STB Configuration Software Quick Start Guide

06/2005
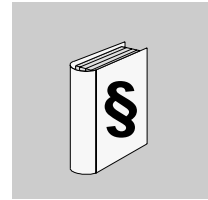
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Table of Contents

Safety Information

Important Information

NOTICE   Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation, which, if not avoided, **will result** in death, serious injury, or equipment damage.

⚠ WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, **can result** in death, serious injury, or equipment damage.

⚠ CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, **can result** in injury or equipment damage.

PLEASE NOTE   Electrical equipment should be serviced only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material. This document is not intended as an instruction manual for untrained persons.

About the Book

At a Glance

Document Scope   This document provides basic information and instructions for getting the Advantys STB Configuration Software set up and operating.

Validity Note   The data and illustrations found in this book are not binding. We reserve the right to modify our products in line with our policy of continuous product development. The information in this document is subject to change without notice and should not be construed as a commitment by Schneider Electric.

Related Documents

Title of Documentation	Reference Number
The Advantys STB System Planning and Installation Guide	890USE17100
The Advantys STB System Hardware Components Reference Guide	890USE17200
The Advantys STB Profibus DP Network Interface Applications Guide	890USE17300
The Advantys STB INTERBUS Network Interface Applications Guide	890USE17400
The Advantys STB DeviceNet Network Interface Applications Guide	890USE17500
The Advantys STB CANopen Network Interface Applications Guide	890USE17600
The Advantys STB Ethernet TCP/IP Modbus Network Interface Applications Guide	890USE17700
The Advantys STB Modbus Plus Network Interface Applications Guide	890USE17800
The Advantys STB Fipio Network Interface Applications Guide	890USE17900
The Advantys STB Reflex Actions Reference Guide	890USE18300

Product Related Warnings

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When controllers are used for applications with technical safety requirements, please follow the relevant instructions.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this product related warning can result in injury or equipment damage.

User Comments

We welcome your comments about this document. You can reach us by e-mail at techpub@schneider-electric.com

Hardware and Software Requirements

1

Introduction

Overview The Advantys configuration software is designed to run on various Microsoft Windows-based operating systems. This chapter describes your computer system requirements. It also provides instructions for installing and uninstalling the software.

What's in this Chapter? This chapter contains the following topics:

System Requirements

Hardware Requirements

Your PC needs to meet the following hardware requirements to run the Advantys configuration software:

Requirement	Minimum	Recommended
computer	Pentium III or equivalent	
RAM	128 MB	256 MB
free hard drive space	120 MB	150 MB
monitor display	256 color VGA	1024 x 768 resolution

A CD-ROM drive is the required installation medium.

Software Requirements

The Advantys configuration software requires one of the following software operating systems:

Operating System	Edition/Service Pack	Special Considerations
Microsoft Windows 98	second edition (SE)	For Windows 98 (SE), we recommend that you limit physical memory size to a maximum of 256 MB and set up contiguous permanent swap files.
Windows NT 4.0	service pack 6 or above	For Windows NT, Windows 2000 or Windows XP Porfessional, you need administration privileges to install the Advantys configuration software.
Windows 2000	service pack 1 or above	
Windows XP Professional	service pack 1 or above	

The browser needs to be Microsoft Internet Explorer 4.01 or higher.

Connection to a Physical Island

The Advantys configuration software runs on a PC that connects to the CFG port on the network interface module (NIM) of the physical Advantys island. You need to make the connection with a special 2 m (6.2 ft) STB XCA 4002 programming cable, which ships with the software.

For more information about the required hardware connections, refer to the *Advantys STB System Planning and Installation Guide* (890 USE 171 00) or the CFG port discussion in your Advantys STB NIM applications guide.

How to install and remove the Advantys software

Before You Start Before you install the Advantys configuration software:

- Remove any previous version of the Advantys configuration software.
- Close all Windows applications and virus-protection software.

Installation To install the Advantys configuration software:

Step	Action	Result
1	Insert the Advantys CD in your PC's CD-ROM drive.	If the AUTORUN function is activated, the installation will start automatically.
2	If the installation does not start automatically, double-click `[CD-ROM drive:]\start.exe`.	The `Language Selection` screen appears.
3	Choose a language and click `Next`.	The `Action Selection` screen appears.
4	Select the action you want to perform. Select `Install Advantys Configuration Software` to install the software.	The `Installation Wizard` screen appears.
5	Enter `Next` to start the installation.	The `License Agreement` screen appears.
6	Accept the license agreement and enter `Next`.	The `Readme Information` screen appears.
7	Enter `Next` to continue the installation.	The `Catalog Selection` screen appears.
8	Select the catalog(s) and enter `Next` to continue.	The `User Information` screen appears.
9	Enter your user information and the following apllication settings. Enter `Next` to continue the installation.	The `Destination Folder` screen appears.
10	Browse the destination folder or use the standard folder. Enter `Next` to continue the installation.	The `Select Installation Type` screen appears.
11	Select the type of installation you want to use. Please select `Typical` for a standard installation. Enter `Next` to continue the installation.	The last screen appears.

Step	Action	Result
12	Enter `Finish` to start the installation of the Advantys Configuration Software on your computer.	The installation status appears.
13	To register the software, click `Yes`. To run the software without registering it, click `No`.	An unregistered software package will run for 21 days, then stop running. You will need to uninstall the expired software before installing a new version. The new installation must be registered before it will work.
14	Follow the remaining on-screen installation instructions.	Once the software has been installed, an icon appears on your desktop, which you can double-click to start the software: **A**

Removal   To remove the Advantys configuration software from your computer, chose the following path:

    Start →**Settings** →**Control Panel** →**Add/Remove Programs**

Configuration Software Overview

2

Introduction

Overview

This chapter provides an overview of the basic components of the Advantys configuration software.

What's in this Chapter?

This chapter contains the following topics:

Introduction

Overview

The Advantys configuration software supports the Advantys STB distributed I/O system, an open, modular system designed for the machine industry, with a migration path to the process industry.

The software is an optional feature of the system that can be used to:
- Create, modify and save the configuration descriptions of all the physical devices on an island. These tasks are performed mainly in offline mode, although some modifications may be done online.
- Monitor island performance, adjust data values, and build a binary file describing the Island configuration.

Configuration Check

The Advantys configuration software checks for correctness (numeric limitations on modules and I/O points, compatibility between power supply modules and I/O modules, etc.) whenever possible during the editing process. Otherwise, these checks are made when a complete project build is performed.

The software provides features that help you plan:
- Logic and field power consumption
- I/O image area consumption

Editors

The software features three main editors:
- **Island Editor**, which provides a graphical display of the island segment(s) and the order in which the modules are installed.
- **I/O Module Editor**, where you can customize the operating parameters of the individual I/O modules.
- **Reflex Editor**, where you can program Reflex actions and map their results to individual output modules on the Island.

Software Outputs

A list of the modules available for your Island configuration is displayed in the **Catalog browser** of the Advantys configuration software. Use this browser to select and install modules in the **Island Editor**.

The configuration software provides three major outputs:
- A device description file. You may generate this device description file in several different formats depending on the intended usage and the field bus format.
- A binary image of the configuration suitable for downloading into the Island.
- A printout of project documentation.

Starting the Advantys Configuration Software

In the Windows Environment

To launch the Advantys configuration software in the Windows environment:

Step	Action
1	Click the **Start** button.
2	From the **Programs** option, select **Schneider Electric**, followed by **Advantys**, and **Advantys** once again.
3	From the popup window select the type of physical island you want to configure.
3	Select the language you want to use.
4	Click **OK**.

From the Command Line

To start the Advantys configuration software from a command line editor:

Step	Action
1	Open the command line editor.
2	At command prompt, type **advantys.exe -w** followed by a path to the workspace. For example: **"C:\Program Files\Schneider Electric\Advantys\Advantys.exe" -w** **"C:\Program Files\Schneider Electric\Advantys\projects\test\test.aiw"** Note: You can omit the -w and it opens with the previous workspace as if launched in windows.
3	Press **Enter**.
3	From the popup window select the type of physical island you want to configure.
4	Select the language you want to use.
5	Click **OK**.

If you enter a wrong argument as a command parameter, a warning message is displayed with suggested valid arguments.

What Is an Island?

Overview   Before we describe the different capabilities available in the Advantys configuration software, let's distinguish between a *physical island* in the real world of your application and a *logical island* in the context of the software.

A Physical Island   An island is an assembly of distributed I/O, power distribution and island bus communication/extension modules that function together as one node on a fieldbus. An island contains up to 32 I/O modules plus a NIM, one or more power distribution modules PDMs, and optionally some modules that let you extend the bus to multiple segments (or rails) of Advantys STB I/O, to Advantys STB preferred modules, and to standard CANopen devices.

The following illustration shows an example of a segment on a physical island:
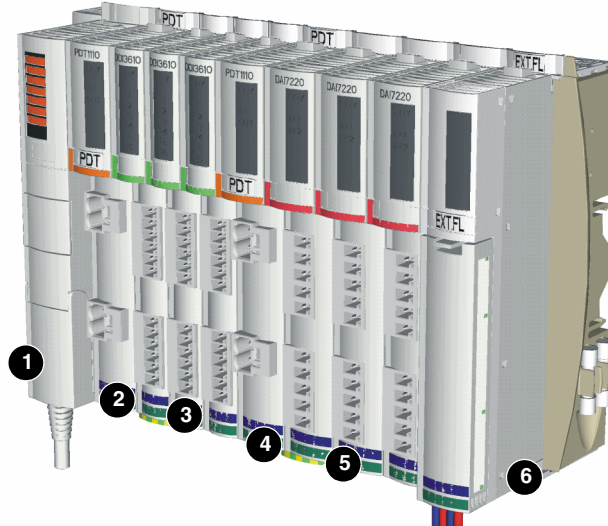
Module (1) is the NIM, followed by a PDM (2) and a voltage group of I/O modules (3). A second PDM follows this I/O group. The second PDM (4) supports another group of I/O modules (5) that require a different field power voltage or additional current. The last device on the segment is an EOS module (6), which allows you to extend the physical island to another segment of Advantys I/O modules or to a preferred module.

A Logical Island   The Advantys configuration software lets you model a physical island so that it can be tested against our design rules and customized to meet your application requirements. We call the software model the *logical* island (see also .

The logical island is a file in the software program with a *.isl* extension. It contains a description of the physical island—all the modules on the island and all the operating parameters associated with each module that may be defined in software.

As you develop a logical island, the software will provide warnings about any mistakes you have made in the model, and usually it will prevent you from creating an invalid configuration. For example, it prevents you from placing a DC module in a location where it would receive AC field power (and vice versa).

The Workspace

Overview

The workspace is a project environment in the Advantys configuration software. The workspace is where you design a logical island configuration. Within the workspace, you can create a new configuration and download it to the physical island. You can also upload configuration data from a physical island to a logical island in the workspace (see also).

A workspace is saved as a file with an .aiw extension.

Relationship of the Workspace to an Island

One or more logical islands can be created and managed in a workspace, up to a maximum of 10 islands. The configuration data associated with each island is stored in its own .isl file in the workspace.

Customizing Your Workspace

You can customize your workspace settings by selecting **Settings** from the **Options** pull-down menu. These settings include:

- The interface language (English, French, German, Spanish or Italian).
- Foreground and background colors.
- The default directory path.

If you have more than one workspace on your computer, you can define different settings for different workspaces.

A Workspace Screen

A workspace screen consists of the following areas:
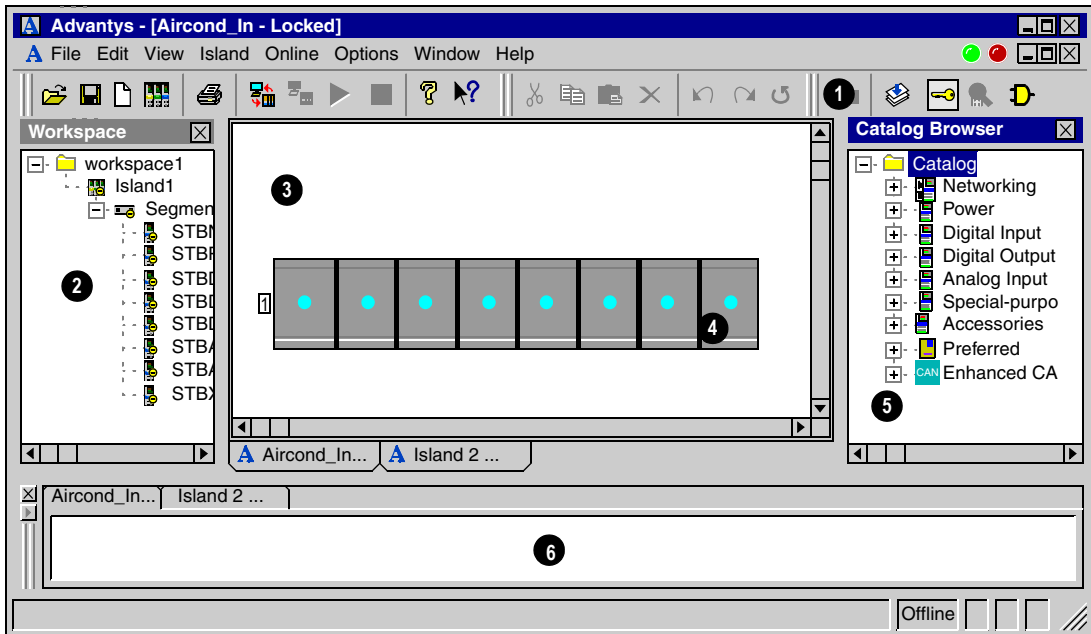
1. Toolbars
2. Workspace Browser
3. Island Editor
4. DIN Rail
5. Catalog Browser
6. Log Window

These areas may be hidden, enlarged, reduced, moved or docked on the workspace screen. If you modify the layout of a workspace screen, the layout definition is saved. Each time you reopen that workspace, the screen appears with the layout that you used the last time you saved the workspace.

The illustration above shows the default locations of each of the six workspace areas. The functions of these area will be described in more detail over the next few pages.

Island Segments

Primary Segment Each island must include at least one segment, called the primary segment. The primary segment is always the first segment in the island configuration. It is where the network interface module (NIM) resides.

Modules in the Primary Segment The NIM is always located in the first (leftmost) slot in the primary segment. The power supply built into the NIM converts 24 VDC into a 5 V logic power signal that supports all other modules in the primary segment.

The NIM is immediately followed by a power distribution module (PDM), which will distribute field power to the input and output modules on your Island. Depending on the type of I/O modules in the segment, you will use an STB PDT 310x PDM (to distribute 24 VDC), an STB PDT 210x PDM (to distribute 115 or 230 VAC) or some combination of the two PDM types.

The power supply in the NIM supports 1.2 A of current to be drawn by the I/O modules in the segments.

Auxiliary Power Supply The STB CPS 2111 auxiliary power supply provides 5 VDC logic power to the modules installed to its right in an Advantys STB island segment. It works together with the NIM (in the primary segment) or with a BOS module (in an extension segment) to provide logic power when the I/O modules in the segment draw current in excess of 1.2 A.

The module convertd 24 VDC from an external power source to an isolated 5 VDC of logic power, providing up to 1.2 A of current to the modules to its right.

Last Device in a Primary Segment
Each Advantys system must be terminated at the last module. If the island comprises only the primary segment, use the STB XMP 1100 termination plate as the last module in this segment. If the island is extended to either another segment of Advantys STB modules or to a preferred module, do not use the termination plate at the end of the primary segment.

The following table describes different ways to end a primary segment, depending on your requirements.

If ...	... then
the island bus comprises just one segment with no extensions	terminate the primary segment with an STB XMP 1100 termination plate
the island bus is extended to another segment of Advantys STB I/O modules	do not use a termination plate in the primary segment; install an STB XBA 2400 base to hold an STB XBE 1000 EOS module at the end of the segment
the island is extended to a preferred module	install an STB XBA 2400 base to hold an STB XBE 1000 EOS module at the end of the segment
the island is extended to an exhanced or a standard CANopen device	install an STB XBA 2000 base to hold an STB XBE 2100 CANopen extension module at the end of the segment, followed by a STB XMP 1100 termination plate

Island Bus Extensions
There are several reasons why you might want to extend your island configuration beyond the primary segment:
● To position the I/O modules as close as possible to the sensors and actuators they control
● To extend the Island bus to devices other than Advantys STB I/O modules (preferred modules and/or enhanced CANopen devices and/or standard CANopen devices)

Extending the Island to Extension Segments of STB I/O Modules

When you extend the island bus to additional segments of STB I/O, these segments are called extension segments. An island bus may support up to six extension segments of STB I/O modules. Extension segments must be preceded by one primary segment.

The first (leftmost) module in each extension segment is an STB XBE 1200 beginning-of-segment (BOS) module. It is followed by a PDM and one or more STB I/O module(s). The BOS has a built-in power supply like the one used in the NIM. It provides 1.2 A of current to support the STB I/O modules in its extension segment. Aux power supply can provide additional logic current if necessary.

The BOS is connected to the previous segment (or to a preferred module) by an Island bus extension cable. The cable and the BOS module extend the island's communication bus and auto-addressing line to the new segment.

Just as with the primary segment, the last device in an extension segment may be either:
● An STB XMP 1100 termination plate, if this is the last segment of the Island
● An STB XBE 1000 EOS module, if it is immediately followed by another extension segment or a preferred module
● An STB XBE 2100 CANopen extension module, if it is immediately followed by a STB SMP 1100 termination plate

In the Advantys configuration software, each segment is shown on a separate DIN rail. In a real physical installation, more than one segment may be placed on the same DIN rail.

Extending the Island to Preferred Modules

You may also extend the island bus to one or more preferred module(s). In most respects, the island bus handles them just as other STB I/O modules. There are, however, two key differences:
● A preferred module is not designed in the Advantys STB form factor and does not fit into one of the standard base units. It therefore does not reside in a segment.
● It may require its own power supply.

A preferred module must have an input connection to receive an island bus extension cable from the upstream island module. It is designed with an extension cable output connection that allows it to send island bus signals to a downstream module or segment. It also has the ability to terminate the island bus in the event that it is the island's last module.

An island can support as many as 31 preferred modules. (The primary segment must include at least one Advantys STB I/O module.) You may use island bus extension cables to daisy-chain multiple preferred modules together.

Extending the Island to enhanced or standard CANopen Modules

You may also extend the island bus to one or more CANopen devices. The island bus supports up to 12 CANopen devices. This type of bus extension requires a special STB XBE 2100 CANopen extension module as the last module of the segment preceding the first CANopen device.

CANopen devices must always be the last devices on the island bus.

CANopen devices must be addressed manually, usually via a set of address switches built onto the devices. The baud rate has to be set to 500 kBaud. The **Module Editor** for the NIM also offers the possibility to set up the maximum node ID value to be used on a CANopen extension, through the Properties tab. Any manually set address switch must match the automatically assigned node ID. The address assignement for the CANopen modules starts with this value, counting downwards to avoid any overlap with addresses automatically assigned to the Advantys STB modules. The default value is 32; however, it may be modified in order to enforce the use of lower node IDs for CANopen devices. Indeed, some of these devices may have a restricted configurable address range.

Whenever a standard CANopen device is part of the island bus, the bus must be configured to operate at 500 kBaud. The default baud rate is 800 kBaud, so you must change it with the Advantys configuration software. To change the baud rate select from the Island menu .

When you are using standard CANopen devices, do not push the RST button on the NIM. The RST button will cause the baud rate to be set to 800 kBaud, and the island bus will not operate properly.

Maximum Length of the Island Bus

The total length of the island bus, from the NIM to the last device, must not exceed 15 m (49.2 ft). This length includes the sum of the lengths of all bus extension cables and CANopen cables connecting devices as well as the widths of the hardware modules themselves.

Creating a Project with the Advantys Configuration Software

Overview

The Advantys configuration software provides a set of Windows-based tools that enable you to plan, model, customize, and test island bus designs and to download custom configurations to physical islands.
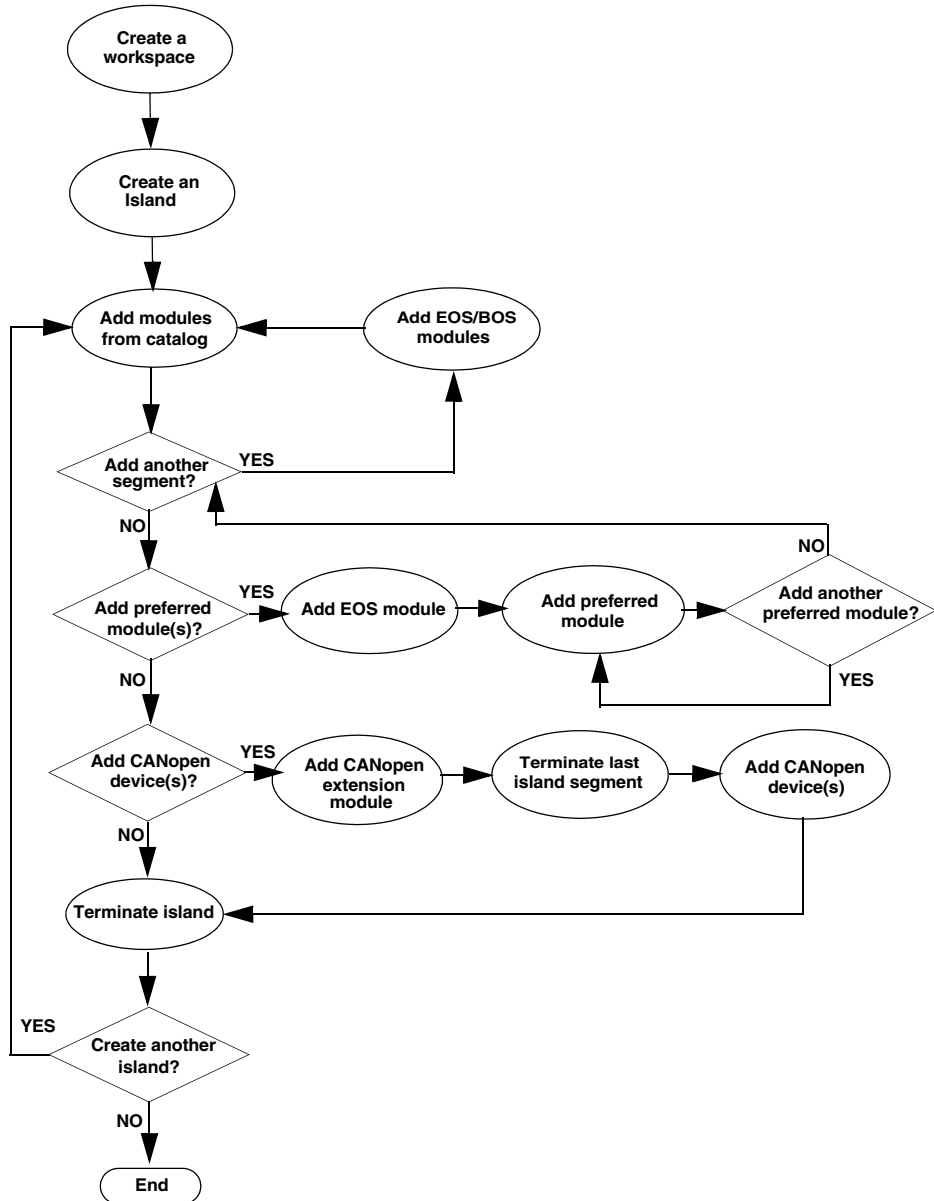
Advantages of Using the Software

All the Advantys STB I/O modules have factory-default parameter settings that allow them to be operational directly out of the box. If you want to customize your island's operational capabilities, however, you need to use the Advantys configuration software.

The software lets you:

- customize the operating parameters of the I/O modules
- create and implement reflex actions
- optimize island performance by assigning priority to certain modules
- designate certain application-critical modules as mandatory
- add preferred modules and/or standard CANopen devices to the island configuration
- validate that your island configuration adheres to Advantys STB design guidelines

Project Work Flow

The following flowchart describes the work flow associated with a valid island configuration:

```
                    ┌─────────────┐
                    │  Create a   │
                    │  workspace  │
                    └──────┬──────┘
                           │
                    ┌──────▼──────┐
                    │  Create an  │
                    │   Island    │
                    └──────┬──────┘
                           │
     ┌──────────► ┌────────▼────────┐          ┌─────────────┐
     │            │  Add modules    │◄─────────│ Add EOS/BOS │
     │            │  from catalog   │          │   modules   │
     │            └────────┬────────┘          └─────────────┘
```

Create a workspace → Create an Island → Add modules from catalog ← Add EOS/BOS modules

Add another segment? — YES → (to Add EOS/BOS modules) / NO ↓

Add preferred module(s)? — YES → Add EOS module → Add preferred module → Add another preferred module? — NO / YES (loop to Add preferred module) / NO ↑

Add CANopen device(s)? — YES → Add CANopen extension module → Terminate last island segment → Add CANopen device(s) / NO ↓

Terminate island ← (from Add CANopen device(s))

Create another island? — YES → (to Add modules from catalog) / NO ↓

End

Creating an Island Bus Configuration

3

Introduction

Overview

This chapter describes how a logical island configuration can be created in an active workspace.

What's in this Chapter?

This chapter contains the following topics:

Creating a Workspace

Overview

Before you can create a .isl file for a logical island, you need to open an existing workspace or create a new one. In the Advantys configuration software, an island can exist only inside a workspace.

The first time you start the configuration software, you must first create a workspace. When you create the workspace, it automatically creates a new island inside it. You can add additional islands to the workspace. A workspace can contain up to 10 islands.

Creating a Workspace

The following table shows how to create a new workspace:

Step	Action	Result
1	Select **New Workspace** from the **File** menu.	The **New Workspace** dialog box displays.
2	In the **Workspace File** field of the dialog, enter a name for the workspace.	A workspace name can be up to 50 characters long and can comprise alphanumeric plus space, "_" and "-" keyboard characters.
3	In the **Island File** field of the dialog, enter a name for the island.	An island file name can be up to 50 characters long and can comprise alpha-numerics, spaces and other keyboard characters.
4	Click **OK**.	A new workspace screen appears with the new island open in it. All that appears in the island editor is an empty DIN rail.

The Rails

Overview

An empty rail appears in the island editor as soon as a new island is created:
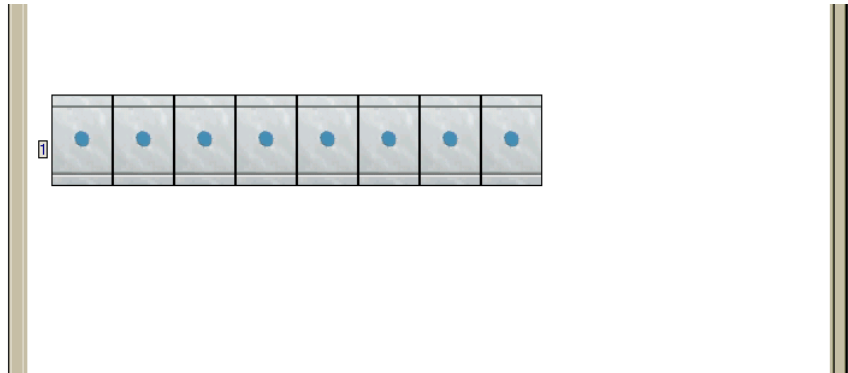
This rail will support the Advantys STB modules in the primary segment of the new island bus configuration. All the modules in the primary segment of the island (the NIM, PDMs, Aux power supply, I/O modules, extension modules or termination plate) will be inserted on this default rail.

Deleting and Adding the Primary Rail

If you delete the primary rail from the island editor and then want to replace it, use the **Add Rail** command from the **Island** menu. You must have the primary rail to configure a logical island.

Adding More Rails

Each segment in a logical island appears on its own rail. The maximum number of rails in an island configuration is seven - one for the primary segment and up to six for extension segments.

In the Advantys configuration software, a segment is referred to a *rail*.

Preferred modules (See *Extending the Configuration to a Preferred Module, p. 33*) and CANopen devices (See *Extending the Configuration to Standard CANopen Devices, p. 34*) do not appear on separate rails in the island editor. They appear beside or below the rail from which they are extended.

Adding Modules to an Island Segment

Overview

There are three ways to add modules to a rail:

- drag-and-drop function
- double-click on the module
- select the module and press **Enter**

If you try to add a module on the rail in an invalid location, a warning message appears and the software does not allow the module to be dropped in that location.

Drag-and-Drop Method

To add a module to a rail using the drag-and-drop method:

Step	Action	Result
1	Select the module name in the catalog browser .	The module name is highlighted.
2	Drag it to the desired location on the rail in the island editor.	As the module is dragged across the workspace, the icon displays. When the module crosses over the rail, one of the following icons appears: • indicating a valid position • indicating an invalid position
3	Release the mouse button on a valid location.	A graphical version of the module drops in the location on the rail.

Double-Click Method

The double-click method is usually the quickest way to add a module to the configuration:

- If you want to add a module to the end of the last rail, simply double-click on the module name in the catalog browser . A graphical version of the module appears at the end of the rail.
- If you want to place a module between two modules that are already on the island, select the leftmost of the two existing modules in the island editor, then double-click on the new module name in the catalog browser . A graphical version of the new module appears between the two existing modules on the rail.

Enter Key Method
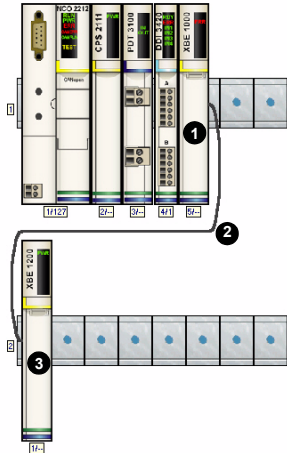
The **Enter** key method is similar to the double-click method:

● If you want to add a module to the end of the last rail, single-click on the module name in the catalog browser , then push **Enter**. A graphical version of the module appears at the end of the rail.
● If you want to place a module between two modules that are already on the island, select the leftmost of the two existing modules in the island editor, then select the new module name in the catalog browser and push **Enter**. A graphical version of the new module appears between the two existing modules on the rail.

Adding Extension Rails to the Island Configuration

Procedure You can extend the island configuration over longer distances by adding extension rails:
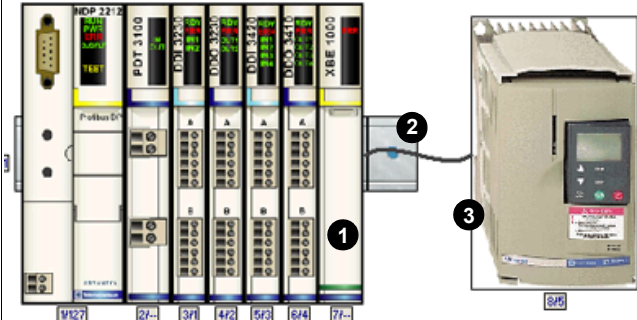
Step	Action
1	If there is a terminator plate at the end of the last existing rail, remove it. Also remove the XBE2100 module, if there is one, and the modules attached to it.
2	Pick an EOS module from the catalog browser and drop it in the island editor at the end of the last rail.
3	Double-click on a BOS module in the catalog browser. A new rail will appear in the island editor below the existing one. The BOS module (3) is the first module on the new rail. An extension cable (2) connects the EOS module (1) and the BOS module.:
4	Pick a PDM from the catalog browser and drop it in the island editor next to the BOS module. Add Auxillarry power supplies if necessary.
5	Pick the appropriate I/O modules from the catalog browser and drop them in voltage group(s) after the PDM(s).
6	Pick either a terminator plate or another extension module (either an EOS or a CANopen extension module) and drop it at the end of the new rail.

Note: An island can support up to seven rails. The primary is required, and up to six extension rails are optional.

Extending the Configuration to a Preferred Module

Procedure   To extend an island configuration from a rail to a preferred module:

Step	Action
1	If there is a terminator plate at the end of the last existing rail in the island editor, remove it.
2	Pick an EOS module from the catalog browser and drop it in the island editor at the end of the rail.
3	Double-click on a preferred module in the catalog browser. The preferred module (3) appears in the island editor beside the rail. An extension cable (2) connects the EOS module (1) and the preferred module.
4	If you want to add another preferred module, repeat step 3. Each additional module is placed to the right of the previous module, with a cable connection between them. If you want to extend to a new Advantys I/O rail, go to step 5. If you want the preferred module to be the last module on the island, go to step 6.
5	Double-click on a BOS module in the catalog browser. A new rail will appear below the existing one. The BOS module is the first module on the new rail. An extension cable connects the preferred module and BOS module (See *Adding Extension Rails to the Island Configuration, p. 32*).
6	Apply 120 Ω termination to the physical preferred module.
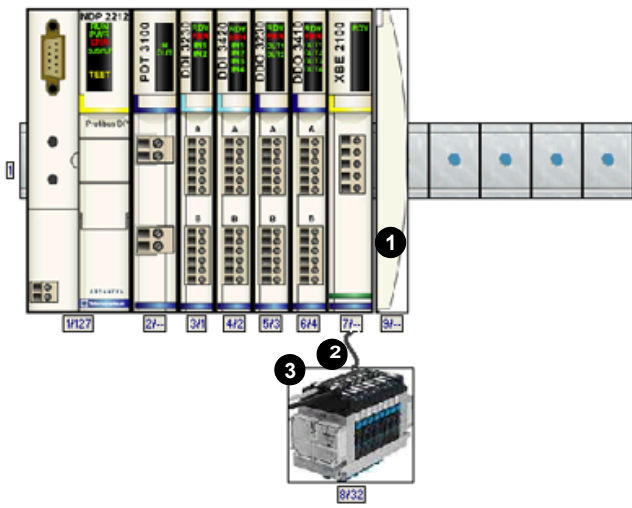
Note: There is no graphical element in the software to indicate termination on a preferred module. You must provide this termination on the physical module.

Extending the Configuration to Standard CANopen Devices

Procedure   An Advantys STB island does not auto-address standard CANopen devices. If your application includes standard CANopen devices, they must be installed as the last devices on the island. You must set their island addresses manually on the devices. Install all your auto-addressable modules (Advantys I/O and preferred modules) first.

To extend the configuration from a rail to standard CANopen devices:

Step	Action
1a	If there is a terminator plate at the end of the last rail in the island editor, pick a CANopen extension module from the catalog browser and drop it in front of the termination plate.
1b	If there is not a terminator plate at the end of the last rail, pick an CANopen extension module from the catalog browser and drop it in the last position on the rail. Then pick a termination plate from the catalog browser and drop it after the CANopen extension module.
2	Pick a CANopen device from the catalog browser . The device appears in the island editor below the CANopen extension module and off the rail (3). An extension cable (2) connects the CANopen extension module (1) and the CANopen device (3).
3	If you want to add another CANopen device, repeat step 2. Each additional device is placed to the right of the previous device and is connected by a CANopen extension cable.

Step	Action
4	If you do not want to add more standard CANopen devices to the configuration, apply 120 Ω termination to the CANopen device.

Note: There is no graphical element in the software to indicate termination on a standard CANopen device. You must provide this termination on the physical device.

Adding and Deleting Annotation to an Island

Adding Annotation

Text comments can be placed in the island editor with the annotation feature. There are three ways to annotate a logical island:

● click the [icon] button in the **Island** toolbar
● right-click on a location in the island editor, then select **Add Annotation** from the menu
● select **Add Annotation** from the **Island** menu

Resizing the Annotation Box

The annotation box can be resized to accommodate any amount of text.

The following table shows how to resize an annotation box:

Step	Action
1	Select the annotation box. When it is selected, handles appear on the corners and sides of the box.
2	Position the mouse cursor over a handle until the cursor changes to ↖ .
3	Drag the handle until you achieve the desired size.

Moving the Annotation Box

An annotation box can be moved anywhere within the Island Editor.

The following table shows how to move an annotation box:

Step	Action
1	Resize the annotation box slightly, as described above. (The color of the handles on the box should be green.)
2	Drag the selected box to the desired location in the Island Editor.

Deleting Text from an Annotation Box

The following table shows how to delete text from an annotation box:

Step	Action
1	Select the annotation box.
2	Press **Enter**.

Retrieving Text for an Annotation Box

The following table shows how to retrieve text that has just been deleted from an annotation box:

Step	Action
1	Select the empty annotation box.
2	Click the ↰ button.

Deleting an Annotation Box

The following table shows how to delete an annotation box along and its contents:

Step	Action
1	Select the annotation box.
2	From the **Island** menu, click **Delete Annotation**.

Offline Protection

Overview   Whenever you open an existing island (.isl) file, it comes up locked. When a file is locked, you can monitor it in the workspace screen, but you cannot edit it. Editing is possible only when the file is unlocked. Optionally, you can apply password protection to the offline lock. If you apply a password, you will not be able to unlock the file without first entering the password.

Applying a Password to the Lock

To apply a password to the lock a .isl file:

Step	Action
1	While the new .isl file is active in the workspace, click . A message appears asking you if you want to set a password.
2	Click **Yes**.
3	Type a password, then retype it to confirm.
4	Click **OK**.
5	A message appears prompting you to save the file with the new password. Click **OK**.

The password must be an alphanumeric string between 1 and 32 characters long. An empty password is not valid.

Changing the Lock Password

To change the password on the lock:

Step	Action
1	While the .isl file is active in the workspace, click . A message appears asking you if you want to change the password.
2	Click **Yes**.
3	Enter the old password, then the new one, and then confirm the new password.
4	Click **OK**.
5	A message appears prompting you to save the file with the new password. Click **OK**.

Unlocking   After a password has been applied to a .isl file, you need to know the password to unlock and edit the file when you reopen it. To unlock a password-protected .isl file:

Step	Action
1	While the .isl file is active in the workspace, click .
2	Enter the password.
3	Click **OK**.

Online Protection

Overview

An online protection capability is available to prevent unauthorized changes or overwrites to the configuration data in the physical island. When online protection is enabled, the RST button on the NIM is disabled and data on the removable memory card is ignored.

You will be asked to apply a password to the online protection. When a password is applied, a user needs to know the password in order to remove the protection feature or get into (or out of) temporary test mode.

Note: Be sure to record the password. If you forget the password, you cannot use the RST button to reset the default configuration parameters or the removable memory card to load a new configuration. Also, you cannot change modes on the physical island (test mode/run mode) without the password while online protection is enabled.

The Online Protection Feature

The protection feature is available only in online mode (when the active .isl file in the Advantys configuration software is connected to a physical island).

To enable online protection for the physical island:

Step	Action
1	From the **Online** menu, click **Protect**.
2	Enter a password.
3	Click **OK**.

The **Protect** command toggles the feature on and off. When protection is applied, a check mark appears in the box next to the command in the pull-down menu.

The Password

The password must be an alphanumeric string between 0 and 6 characters long. An empty password is valid.

When protection is activated, you will be queried for a password if you try to execute a command online. If you are not using a password, simply click **OK** when the password dialog appears.

Unprotecting

To disable online protection, click **Online →Protect** again to toggle the feature off. When online protection is not applied, there is no check mark next to the command in the pull-down menu.

Configuration Software Structure

<div style="text-align: right; font-size: 2em; font-weight: bold;">4</div>

Introduction

Overview

This chapter provides a description of the basic user interface functions like navigation and working with menu items. The available menus and all contained items are presented as a reference.

What's in this Chapter?

This chapter contains the following topics:

Windows Conventions

Overview   There are three standard Windows conventions available for moving objects in the Advantys configuration software workspace:
- Drag-and-Drop
- Dock
- Float

Drag-and-Drop   You can drag modules from the Catalog Browser and drop them into the Island Editor. The following table shows hot to Drag-and-Drop a module:

Step	Action	Indication
1	Select a desired module in the Catalog Browser.	-
2	Drag the selected module toward the DIN rail in the Island Editor.	The cursor should look like this:
3	Drag the module into position on the DIN rail.	The cursor should appear, indicating that the module location is valid. If the cursor appears, the module location is invalid. It violates the island's connectivity rules.

> **Note:** Annotation boxes can be moved in the Island Editor also via Drag-and-Drop.

Dock   A standard Windows docking operation lets you drag a window from its original position in the workspace to any corner of the application area. Docking can be applied to the Workspace Browser, the Catalog Browser and the toolbars.

Float   A standard Windows float operation lets you drag the window from its original position in the workspace to any part of the application area. Floating can be applied to the Workspace Browser, the Catalog Browser and the toolbars.

Menus

Overview

There are 3 types of menus:
- Main or pulldown menus
- Submenus
- Shortcut or popup menus

Main or Pulldown Menus

The titles of the individual menus are displayed in the menu bar. The individual menu commands are listed in the pulldown menus. A pulldown menu is opened by left-clicking on the title of the menu or by pressing **Alt**+**selected letter** (underlined letter).

The following figure shows the menu bar with a pulldown menu:
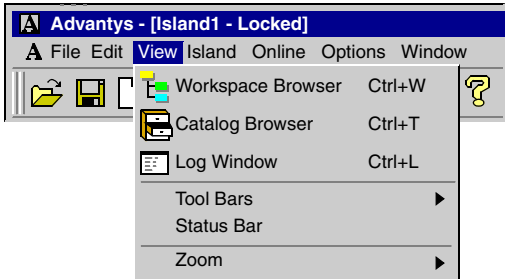
Submenus

The title of a submenu is a menu command of the menu above it. The individual menu commands for the submenu are listed in a pulldown menu. Menu commands which contain a submenu can be recognized by an arrow icon.

The following figure shows a submenu:
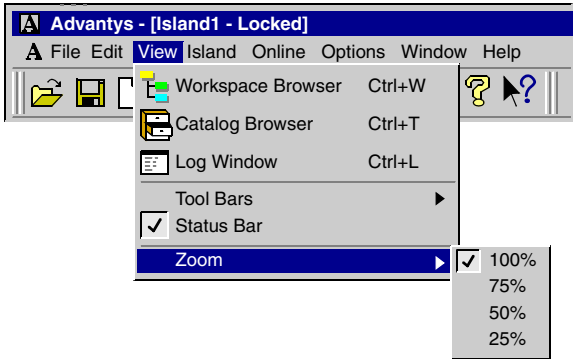
Shortcut or popup menus

Shortcut menus are menus which contain menu commands specially for the selected object.

You can open a shortcut menu by clicking on the object (right mouse button) or selecting the object and confirming with **Shift**+**F10** or press the context sensitive key.

Shortcut menus can also be called if several objects are selected. In this case, the menu only contains the menu commands which are valid for all objects.

The following figure shows an object with shortcut menu:
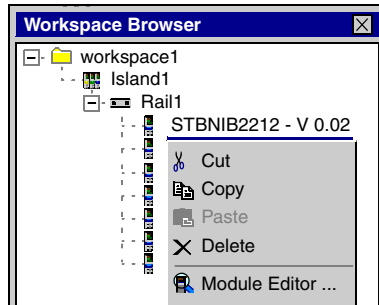
Menu Commands

Introduction

Menu commands are used to execute commands or to call dialog boxes.

The following figure shows an example of a menu with menu commands:
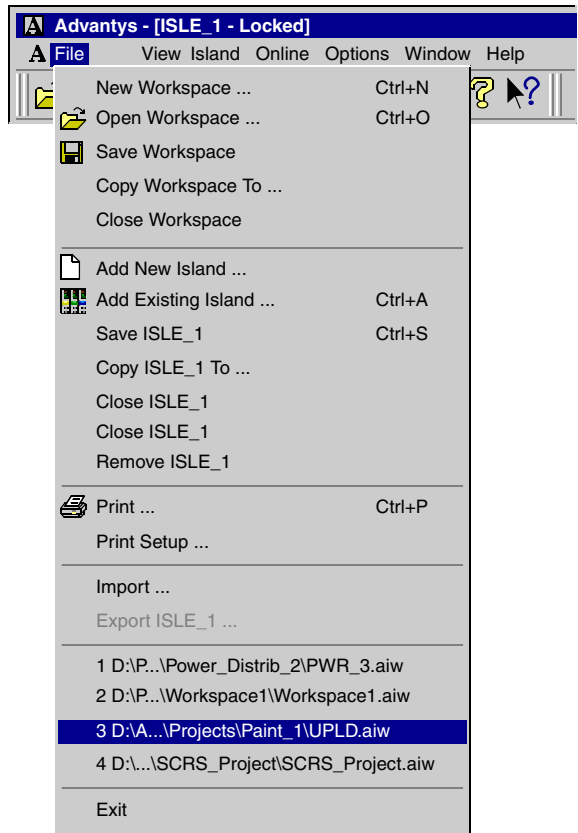
Keyboard Shortcuts or Mnemonics	Keyboard shortcuts (underlined letters) in menu commands allow you to select menu commands using the keyboard. A main menu (menu title) and subsequently a menu command can be selected by holding down Alt and simultaneously entering the underlined letter in the menu title and then the underlined letter of the menu command.
	For example, you want to use the **File** menu, **Save Workspace** menu command, you must press the **Alt**+**F** to open the menu, followed by **Alt**+**V** to execute the menu command.
Dimmed Menu Command	If a menu command is not available it is dimmed. One or more other commands may need to be executed before the desired menu command can be executed.
Decimals (...) after the Menu Command	On execution of this menu command a dialog box is opened with options, which must be selected before execution.
Check Mark before the Menu Command	The menu command is active. If the menu command is selected the check mark disappears and the menu command is inactive. The check mark is mostly used to identify active modes (e.g. Island is protected etc.).
Shortcut Keys	Shortcut keys (e.g. F1) or key combinations (e.g. **Ctrl**+**N**) can be used for executing the menu commands. You can select the menu command using this shortcut key or a key combination without having to open the menu. For example, **Ctrl**+**S** can be pressed to perform the **Save** menu command.

Keyboard Navigation

Overview
The following tables describe the possibility to access certain functions directly with keyboard shortcuts.

Global valid Key Combinations
The following shortcuts are available throughout the Advantys configuration software:

Function	Key Combination
Open Workspace	**Ctrl+O**
Add existing Island	**Ctrl+A**
Save Island	**Ctrl+S**
Print	**Ctrl+P**
Undo	**Ctrl+Z**
Redo	**Ctrl+Y**
Cut	**Ctrl+X**
Copy	**Ctrl+C**
Delete	**Del**
Toggle Workspace Browser	**Ctrl+W**
Toggle Catalog Browser	**Ctrl+T**
Toggle Log Window	**Ctrl+L**
Delete Annotation	**Ctrl+D**
Help	**F1**
What's This?	**Shift+F1**

Key Combinations inside the Browsers
The following shortcuts are available in the Workspace Browser and Catalog Browser:

Function	Key Combination
Expand/reduce the object trees	**Space**
Move down in the object tree and expands reduced elements	**Cursor right**
Move up in the object tree and reduces expanded elements	**Cursor left**
Move up/down in the object tree	**Cursor up/down**

Key Combinations inside the Island Editor

The following shortcuts are available in the Island Editor:

Function	Key Combination
Change between windows of different islands	**Ctrl+Tab** **Ctrl+F6**
Shift the focus to the next module on the right	**Cursor right**
Shift the focus to the previous module on the left	**Cursor left**
Change the status of a selected annotation box	**Esc**
Select next object (segment, NIM, annotation) in the Island Editor	**Tab**

Toolbars

Introduction   Toolbars display a collection of easy-to-use button images and/or menus that initiate different operations in Advantys Configuration Software. Several icons are docked in form of independent toolbars on top of the screen.

Advantys Configuration Software provides four toolbars:

Standard   The **Standard** toolbar comprises 11 icon buttons:
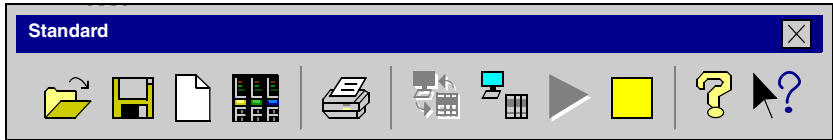
Standard   ⊠

You can move, dock and/or float this toolbar to other locations in the workspace. You may also hide the toolbar by right-clicking in the toolbar and unchecking the **Standard** option.

The **Standard** icon buttons perform following tasks:

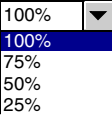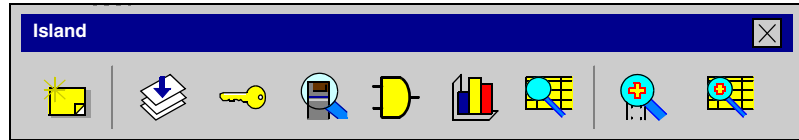| Icon	Task
	Invokes a dialog box where you can open an existing workspace.
	Invokes a dialog box where you can save the currently open workspace and/or Islands.
	Invokes a dialog box where you can create a new Island in the open workspace.
	Invokes a dialog box where you can add an existing Island to the open workspace.
	Invokes a dialog box where you can select any of the items to be printed.
	Invokes a dialog box where you can connect the software to the physical Island.
	Disconnects the software from the physical Island.
	In Online mode, invokes a dialog box where you can put the physical Island in Run mode.
	In Online mode, invokes a dialog box where you can stop the physical Island.
	Invokes a table of contents for the Advantys help system.
	Turns the cursor into a question mark so that you can invoke **What's This?** help on a selected item in the workspace.

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**Edit**   The **Edit** toolbar comprises seven icon buttons:
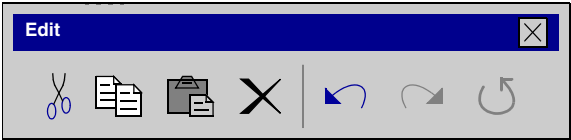
You can move, dock and/or float this toolbar to other locations in the workspace. You may also hide the toolbar by right-clicking in the toolbar and unchecking the **Edit** option.

The **Edit** icon buttons perform following tasks:

Icon	Task
	Cuts the selected item.
	Copies the selected item.
	Pastes the copied item.
	Deletes the selected item.
	Undos the previous action.
	Redos the previous **Undo**.
	Reverts to the previous saved state.

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View   The **View** toolbar comprises three icon buttons and a pulldown window:
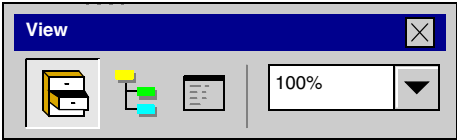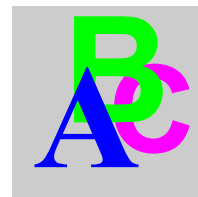

You can move, dock and/or float this toolbar to other locations in the workspace. You may also hide the toolbar by right-clicking in the toolbar and unchecking the **View** option.

The **View** icon buttons perform following tasks:

Icon	Task
	Hides or shows the **Catalog Browser**.
	Hides or shows the **Workspace Browser**.
	Hides or shows the **Log Window**.
	Zooms the size of the **Island Editor** to 25%, 50%, 75% or 100% of the default view.

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Island   The **Island** toolbar comprises nine icon buttons:

You can move, dock and/or float this toolbar to other locations in the workspace. You may also hide the toolbar by right-clicking in the toolbar and unchecking the **Island** option.

The **Island** icon buttons perform following tasks:

Icon	Task
	Places an empty text window in the **Island Editor** where you can add an annotation.
	Initiates the build process for the selected Island configuration; all edits to the configuration must be saved before the build process can start.
	Locks or unlocks the selected Island configuration; also gives you a sequence of prompts that enables you to assign or change a password.
	Opens the **Module Editor** for a selected I/O module in the **Island Editor**.
	Opens the **Reflex Editor**.
	Displays the **Resource Analysis** screen.
	Opens the **I/O Image Overview** screen.
	In Online mode, opens the **Module Diagnostics** screen for a selected I/O module in the **Island Editor**.
	In Online mode, opens the **I/O Image Animation** screen.

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